Installation and Operation Manual

ecoair

Room Air Conditioners

Z Series Inverter Range Split Type

DC Inverter

ECO1850SD

Register your air conditioner

Model information can be found on the CE label.

Please register your product online at www.ecoair.org. For your future convenience, record the model information below.

_____

MODEL NUMBER

_____

SERIAL NUMBER

_____

PURCHASE DATE

What’s in the box

1 x Z Series Indoor Unit

1 x Z Series Outdoor Unit

1 x Remote Control

1 x Drain Hose

1 x User Manual

1 x Hole Cover Plate

1 x Drain Joint

4 x Wall Plugs and Screws.

1 set of Copper Pipes

This appliance can be used by minors from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children should not play with the appliance. Cleaning and user maintenance shall not b e made by minors without supervision.

This marking indicates that this product should not be disposed with other household waste throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources or return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.

R410A(R32/125: 50/50): 1975

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BS Plug Wiring

Wiring Instructions: Should it be necessary to change the plug please note the wires in the mains lead are coloured in accordance with the following code:

BLUE - NEUTRAL
BROWN – LIVE
GREEN AND YELLOW - EARTH

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

1. The **BLUE** wire is the **NEUTRAL** and must be connected to the terminal which is marked with the letter **N** or coloured **BLACK**.

2. The **BROWN** wire is the **LIVE** and must be connected to the terminal which is marked with the letter **L** or coloured **RED.**

3. The **GREEN/YELLOW** is the **EARTH** and must be connected to the terminal which is marked with the letter **E** or ⏚ or coloured **GREEN** or **GREEN/YELLOW**.

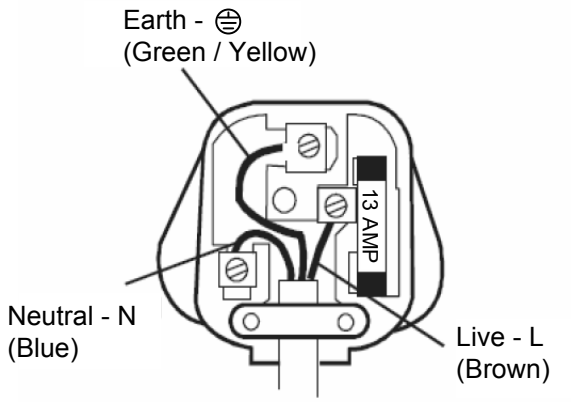
4. Always ensure that the cord grip is positioned and fastened correctly.

If a **13 Amp (BS 1363)** fused plug is used it must be fitted with a **13 Amp** fuse. If in doubt consult a qualified electrician. **(For 9000BTU and 12000BTU unit only.)**

(For 18000BTU use 20 Amp (fuse) supply from the main.)

Wiring for a 13 Amp Plug (BS1363)

Please note. The Earth Terminal is marked with the letter **E** or ⏚ Earth Symbol.



Warning

- Do not connect the air conditioner to a conversion or extension socket as this may cause a fire hazard.
- Do disconnect the power supply when cleaning the air conditioning unit. Excess water could cause an electrical shock.
- Do not spray water on the indoor water as this may cause electrical shock.
- Keep the remote control dry from water as it may fail to function.
- Do not attempt a repair yourself as this may cause electric shock. Contact a qualified air conditioning engineer.
- Keep air outlets and inlets free from blockage, as this can cause malfunction.
- if the unit requires relocation consult and engage a qualified engineer to avoid personal injury and unit damage.
- Do not step on or place heavy objects on top of the indoor unit as this may cause personal injury or damage.
- Ensure that your appliacne is correctly "earthed" to avoid electrical shock.
- Install electric isolators to avoid malfunction.
- Installation and maintenance to be performed by qualified air conditioning engineer failure to engage can result in person al injury or damage, and void warranty

Working temperature range

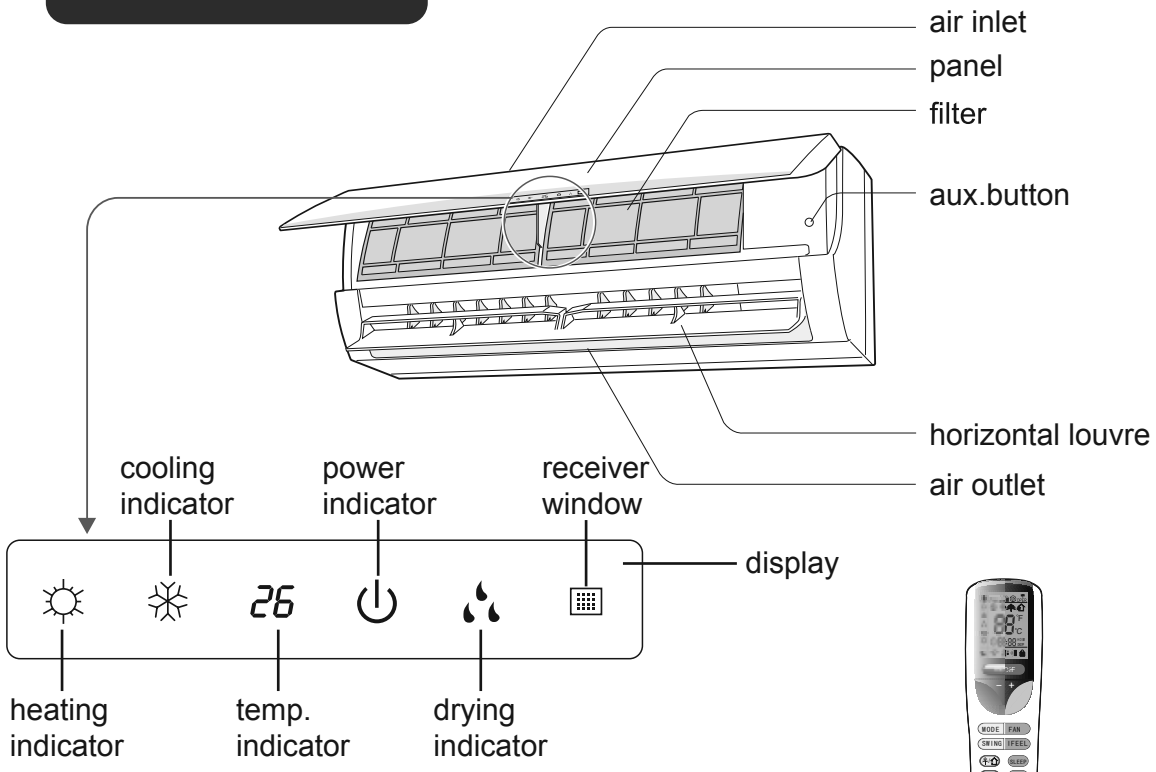
	Indoor side DB/WB(℃)	Outdoor side DB/WB(℃)
Maximum cooling	32/23	40/-
Maximum heating	27/-	24/18

- The operating temperature range (outdoor temperature) for heat pump unit is -5℃ ~ 40℃.

Model: ECO1850SD

Part Names

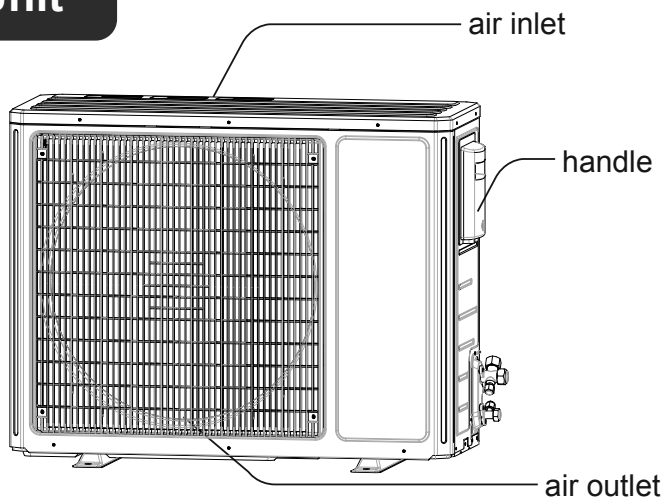
Indoor Unit



remote control

(Display content or position may be different from the above graphics, please refer to actual products)

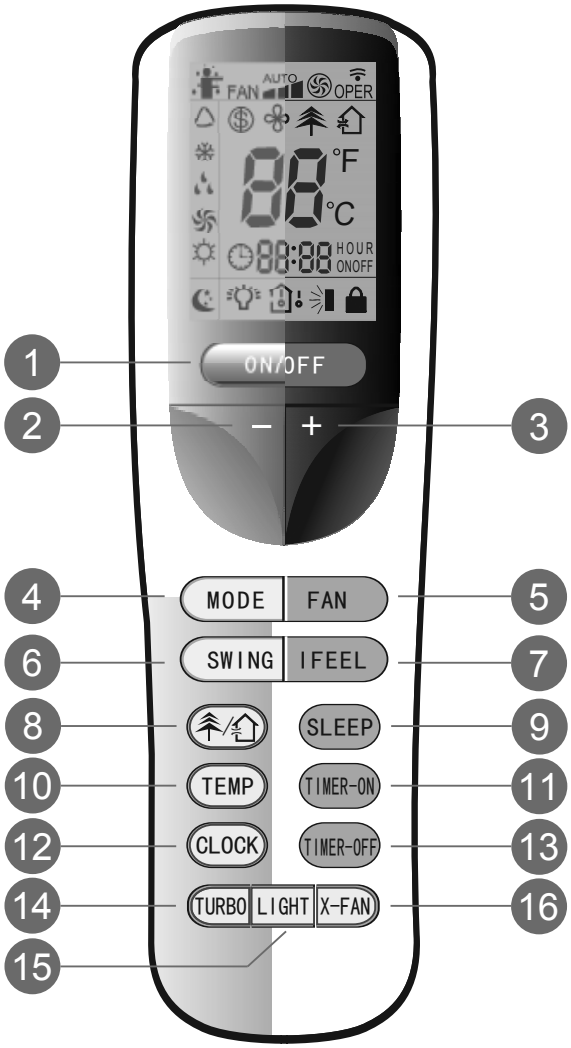
Outdoor Unit



⚠ Notice:

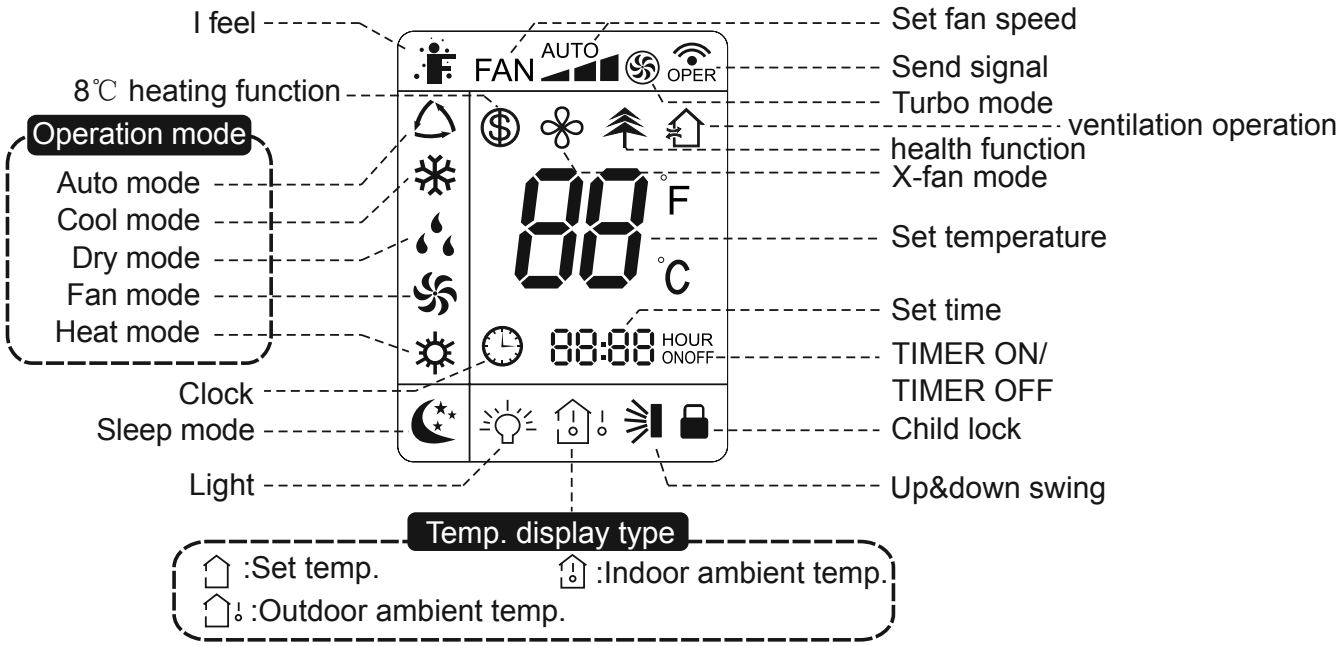
Actual product may be differ from the above graphics, please refer to actual products.

Buttons on remote control



1. ON/OFF button
2. - button
3. + button
4. MODE button
5. FAN button
6. SWING button
7. I FEEL button (optional)
8. / button (optional)
9. SLEEP button
10. TEMP button
11. TIMER-ON button
12. CLOCK button
13. TIMER-OFF button
14. TURBO button
15. LIGHT button
16. X-FAN button (optional)

Introduction to icons on display screen



Introduction to buttons on remote control

Note:

- After turning on the power, the air conditioner will give out a sound. Operation indictor "⏻" is ON (red indicator). After that, you can operate the air conditioner by using remote control.
- Under on status, pressing the button on the remote controller, the signal icon "((•))" on the display of remote controller will blink once and the air conditioner will give out a “de” sound, which means the signal has been sent to the air conditioner.
- Under off status, set temperature and clock icon will be displayed on the display of remote control (If timer on, timer off and light functions are set, the corresponding icons will be displayed on the display of remote control at the same time); Under on status, the display will show the corresponding set function icons.

1 ON/OFF button

Press this button to turn on the unit. Press this button again to turn off the unit.

2 - button

Press this button to decrease set temperature. Holding it down above 2 seconds rapidly decreases set temperature. In AUTO mode, set temperature is not adjustable.

3 + button

Press this button to increase the set temperature. Holding it down above 2 seconds rapidly increases set temperature. In AUTO mode, set temperature is not adjustable.

4 MODE button

Each time you press this button, a mode is selected in a sequence that goes from AUTO, COOL, DRY, FAN, and HEAT*, as the following:

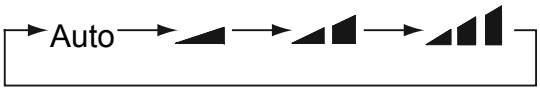
AUTO ▶ COOL ▶ DRY ▶ FAN ▶ HEAT*

*Note: Only for models with heating function.

After energization, AUTO mode is defaulted. In AUTO mode, the set temperature will not be displayed on the LCD, and the unit will automatically select the suitable operation mode in accordance with the room temperature to make indoor room comfortable. (As for cooling only unit, it won’t have any action when it receives the signal of heating operation.)

5 FAN button

This button is used for setting Fan Speed in the sequence that goes from AUTO, ▁ ▂ , to ▂▄▆ , then back to Auto.

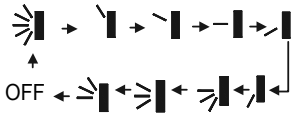


▁ Low speed ▂ Medium speed ▂▄▆ High speed

Introduction to buttons on remote control

6 SWING button

Press this button to set the up & down swing angle, which circularly changes as below:



This remote control is universal. If any command , or is sent out, the unit will carry out the command as

indicates the guide louvre swings as:

7 I FEEL button

Press this button to turn on the I FEEL function. The unit automatically adjusts temperature according to the sensed temperature at the remote to maximize your comfort .Press this button again to cancel the I FEEL function. (optional)

8 / button

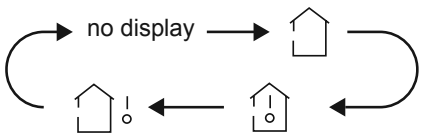
Press this button to start the ventilation system or generate cold plasma function. (optional)

9 SLEEP button

Press this button to go into the SLEEP operation mode. Press it again to cancel this function. This function is available in COOL, HEAT (Only for models with heating function) mode to maintain the most comfortable temperature for you.

10 TEMP button

Press this button to see the indoor set temperature, indoor ambient temperature or outdoor ambient temperature on indoor unit's display. Temperature is set circularly by remote control as below:



- When selecting " " by remote control or no display, the temperature indicator on the indoor unit displays the set temperature.
- When selecting " " by remote control, the temperature indicator on the indoor unit displays the indoor ambient temperature.
- When selecting " " by remote control, the temperature indicator on the indoor unit displays the outdoor ambient temperature. (optional)

Introduction to buttons on remote control

Note:

- Outdoor ambient temperature display can selected for some models.
  When indoor unit receives " " signal, it displays indoor set temperature.
- Only for the models whose indoor unit has a dual-8 display.

11 TIMER-ON button

Press this button to initiate the auto-ON timer. To cancel the auto-timer program, simply press this button again.
After pressing this button, disappears and "ON" blinks. 00:00 is displayed for ON time setting. Within 5 seconds, press + or - button to adjust the time value. Every press of either button changes the time setting by 1 minute. Holding down either button rapidly changes the time setting by 1 minute and then 10 minutes. Within 5 Seconds after setting, press TIMER ON button to confirm.

12 CLOCK button

Press CLOCK button, blinking. Within 5 seconds, pressing + or - button adjusts the present time. Holding down either button above 2 seconds increases or decreases the time by 1 minute every 0.5 second and then by 10 minutes every 0.5 second. During blinking after setting, press the CLOCK button again to confirm the setting, and then will be constantly displayed.

13 TIMER-OFF button

Press this button to initiate the auto-off timer. To cancel the auto-timer program, simply press the button again. TIMER OFF setting is the same as TIMER ON.

14 TURBO button

Press this button to activate/deactivate the Turbo function which enables the unit to reach the preset temperature in the shortest time. In COOL mode, the unit will blow strong cooling air at super high fan speed. In HEAT mode, the unit will blow strong heating air at super high fan speed.

15 LIGHT button

Press LIGHT button to turn on the display's light and press this button again to turn off the display's light. If the light is turned on, is displayed. If the light is turned off, disappears.

16 X-FAN button (optional)

Pressing X-FAN button in COOL or DRY mode, the icon is displayed and the indoor fan will continue operation for 2 minutes in order to dry the indoor unit even though you have turned off the unit.
After energization, X-FAN OFF is defaulted. X-FAN is not available in AUTO, FAN or HEAT mode.

Function introduction for combination buttons

Combination of "+" and "-" buttons: About lock

Press "+" and "-" buttons simultaneously to lock or unlock the keypad. If the remote controler is locked, 🔒 is displayed. In this case, pressing any button, 🔒 blinks three times.

Combination of "MODE" and "-" buttons: About switch between Fahrenheit and Centigrade

When the unit is OFF, press "MODE" and "-" buttons simultaneously to switch between ℃ and ℉.

Combination of "TEMP" and "CLOCK" buttons: About Energy-saving Function

Press "TEMP" and "CLOCK" simultaneously in COOL mode to start energy-saving function. Display on the remote control displays "SE". Repeat the operation to quit the function. (optional)

Combination of "TEMP" and "CLOCK" buttons: About 8℃ Heating Function

Press "TEMP" and "CLOCK" simultaneously in HEAT mode to start 8℃ Heating Function Display on the remote control displays "Ⓢ" and a selected temperature of "8℃". (46℉ if Fahrenheit is adopted). Repeat the operation to quit the function. (optional)

About Back-lighting Function

The unit lights for 4s when energizing for the first time, and 3s for a later press.

★ About HEALTH function (applicable to COLD PLASMA only)
Turn on the unit, start up the fan (Breezing and X-FAN are excluded) and press HEATLTH button on remote control to start health function (If there is not HEALTH button on remote controller, the unit defaults health function ON.) (optional)

Operation guide

1. After connecting the power, press "ON/OFF" button on remote controller to turn on the air conditioner.

2. Press "MODE" button to select your required mode: AUTO, COOL, DRY, FAN, HEAT.

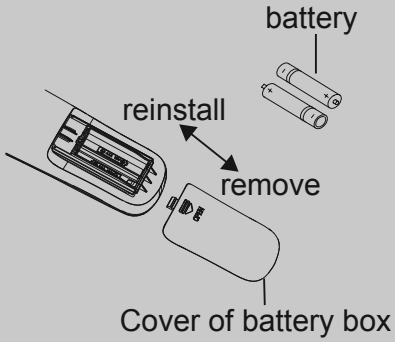
3. Press "+" or "-" button to set your required temperature. (Temperature can't be adjusted under auto mode).

4. Press "FAN" button to set your required fan speed: auto, low, medium and high speed.

5. Press "SWING" button to select fan blowing angle.

Replacement of batteries in remote control

1. Press the back side of remote control marked with "OPEN", as shown in the fig, and then push out the cover of battery box along the arrow direction.
2. Replace two (AAA 1.5V) dry batteries, and make sure the position of "+" polar and "-" polar are correct.
3. Reinstall the cover of battery box.

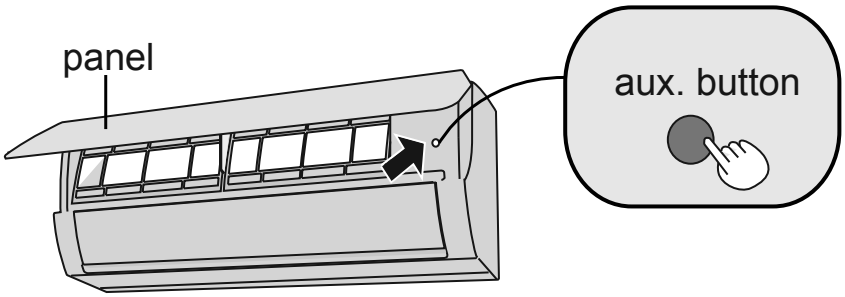


Note:

- During operation, point the remote control signal sender at the receiving window on indoor unit.
- The distance between signal sender and receiving window should be no more than 8m, and there should be no obstacles between them.
- Signal may be interfered easily in the room where there is fluorescent lamp or wireless telephone; remote control should be close to indoor unit during operation.
- Replace new batteries of the same model when replacement is required.
- When you don't use remote control for a long time, please take out the batteries.
- If the display on remote control is fuzzy or there' s no display, please replace batteries.

Emergency operation

If remote control is lost or damaged, please use auxiliary button to turn on or turn off the air conditioner. The operation in details are as below:
As shown in the fig. Open panel, press aux. button to turn on or turn off the air conditioner. When the air conditioner is turned on, it will operate under auto mode.



Cleaning and Maintenance

Note:

- Turn off the air conditioner and disconnect the power before cleaning the air conditioner to avoid electric shock.
- Do not wash the air conditioner with water to avoid electric shock.
- Do not use volatile liquid to clean the air conditioner.

Clean surface of indoor unit

When the surface of indoor unit is dirty, it is recommended to use a soft dry cloth or wet cloth to wipe it.

Note:

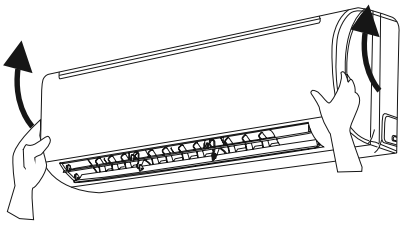
- Do not remove the panel when cleaning it.

Cleaning and Maintenance

Clean filter

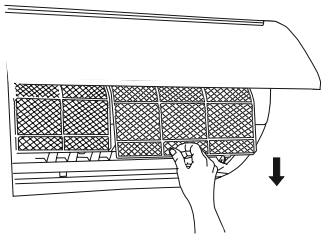
1 Open panel

Unclip front panel and move panel upward as shown in picture



2 Remove filter

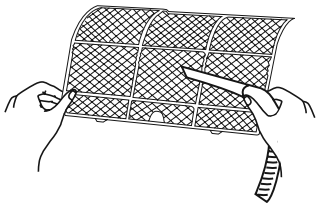
Remove the filter as indicated in the picture.



3 Clean filter

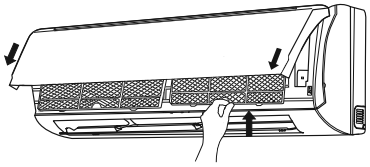
- Use vaccum cleaner or water to clean the filter
- When the filter is very dirty, use the water (below 45℃) to clean it, and then air dry in the shade to avoid deformation .

Note : Its good to change filter every 2 years. To purchase new filter contact EcoAir or your dealer.



4 Install filter

Install the filter and then close the panel cover tightly.



Note:

- The filter should be cleaned every three months. If there is much dust in the operation environment, cleaning frequency can be increased.
- After removing the filter, do not touch fins to avoid injury.
- Do not use fire or hair dryer to dry the filter to avoid deformation or fire hazard.

Cleaning and Maintenance

Checking before use-season

1. Check whether air inlets and air outlets are blocked.
2. Check whether isolator, plug and socket are in good condition.
3. Check whether filter is clean.
4. Check whether mounting bracket for outdoor unit is damaged or corroded. If yes, please contact dealer.
5. Check whether drainage pipe is damaged.

Checking after use-season

1. Disconnect power supply.
2. Clean filter and indoor unit's panel.
3. Check whether mounting bracket for outdoor unit is damaged or corroded. If yes, please contact dealer.

Notice for recovery

1. Many packing materials are recyclable materials. Please dispose them in appropriate recycling unit.
2. If you want to dispose the air conditioner, please contact local dealer or consultant service center for the correct disposal method.

Malfunction analysis

General phenomenon analysis

Please check below items before asking for maintenance. If the malfunction still can't be eliminated, please contact local dealer or qualified air conditioning engineer.

Phenomenon	Check items	Solution
Indoor unit can't receive remote control signal or remote control has no action.	• Whether power has been affected (such as static electricity, stable voltage)?	• Pull out the plug. Reinsert the plug after about 3min, and then turn on the unit again.
	• Whether remote control is within the signal receiving range?	• Signal receiving range is 8m.
	• Whether there are obstacles?	• Remove obstacles.
	• Whether remote control is pointing at the receiving window?	• Select correct angle and point the remote controller at the receiving window on indoor unit.
	• Is sensitivity of remote control low; fuzzy display and no display?	• Check the batteries. If the power of batteries are too low, please replace them.
	• No display when operating remote controller?	• Check whether remote control appears to be damaged. If yes, replace it.
	• Fluorescent lamp in room?	• Take the remote control closer to the indoor unit. • Turn off the fluoresent lamp and then try again.
No air emitted from indoor unit	• Air inlet or air outlet of indoor unit is blocked?	• Eliminate obstacles.
	• Under heating mode, has the indoor temperature reached the set temperature?	• After reaching set temperature, the indoor unit will stop blowing out air.
	• Has the heating mode just turned on?	• In order to prevent blowing out cold air, the indoor unit will be started after delaying of several minutes, which is a normal phenomenon.

Malfunction analysis

Phenomenon	Check items	Solution
Air conditioner doesn't operate	● Power failure?	● Wait until power recovery.
	● Is plug loose?	● Reinsert the plug.
	● RCD trips off or fuse is burnt out?	● Ask a qualified electrician to replace isolator switch or fuse.
	● Wiring has malfunction?	● Ask an air conditioning engineer to replace.
	● Unit has restarted immediately after stopping operation?	● Wait for 3min, and then turn on the unit again.
	● Whether the function setting for remote controller is correct?	● Reset the function.
Mist is emitted from indoor unit's air outlet	● Indoor temperature and humidity is high?	● Because indoor air has cooled rapidly. After a while, indoor temperature and humidity will decrease and mist will disappear.
Set temperature can't be adjusted	● Unit is operating in auto mode?	● Temperature can't be adjusted under auto mode. Please switch the operation mode if you need to adjust temperature.
	● Your required temperature exceeds the set temperature range?	● Set temperature range: 16℃ ~30℃ .
Cooling (heating) effect is not good.	● Voltage is too low?	● Wait until the voltage resumes normal.
	● Filter is dirty?	● Clean the filter.
	● Set temperature is in correct range?	● Adjust temperature to correct range.
	● Doors and windows are open?	● Close door and windows.

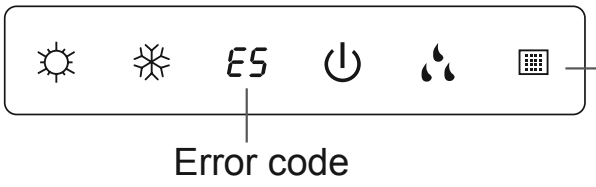
Malfunction analysis

Phenomenon	Check items	Solution
Odours are emitted	● Whether there's odour source, such as furniture and cigarette, etc.	● Eliminate the odour source. ● Clean the filter.
Air conditioner operates abnormally suddenly	● Whether there's interference, such as thunder, wireless devices, etc.	● Disconnect power, turn on power, and then turn on the unit again.
Outdoor unit has vapor	● Heating mode is turned on?	● During defrosting under heating mode, it may generate vapor, which is a normal phenomenon.
"Water flowing" noise	● Air conditioner is turned on or turned off just now?	● The noise is the sound of refrigerant flowing inside the unit, which is a normal phenomenon.
Cracking noise	● Air conditioner is turned on or turned off just now?	● This is the sound of friction caused by expansion and/or contraction of panel or other parts due to the change of temperature.

Malfunction analysis

Error Code

- When air conditioner status is abnormal, temperature indictor on indoor unit will blink to display corresponding error code. Please refer to below list for identification of error code.



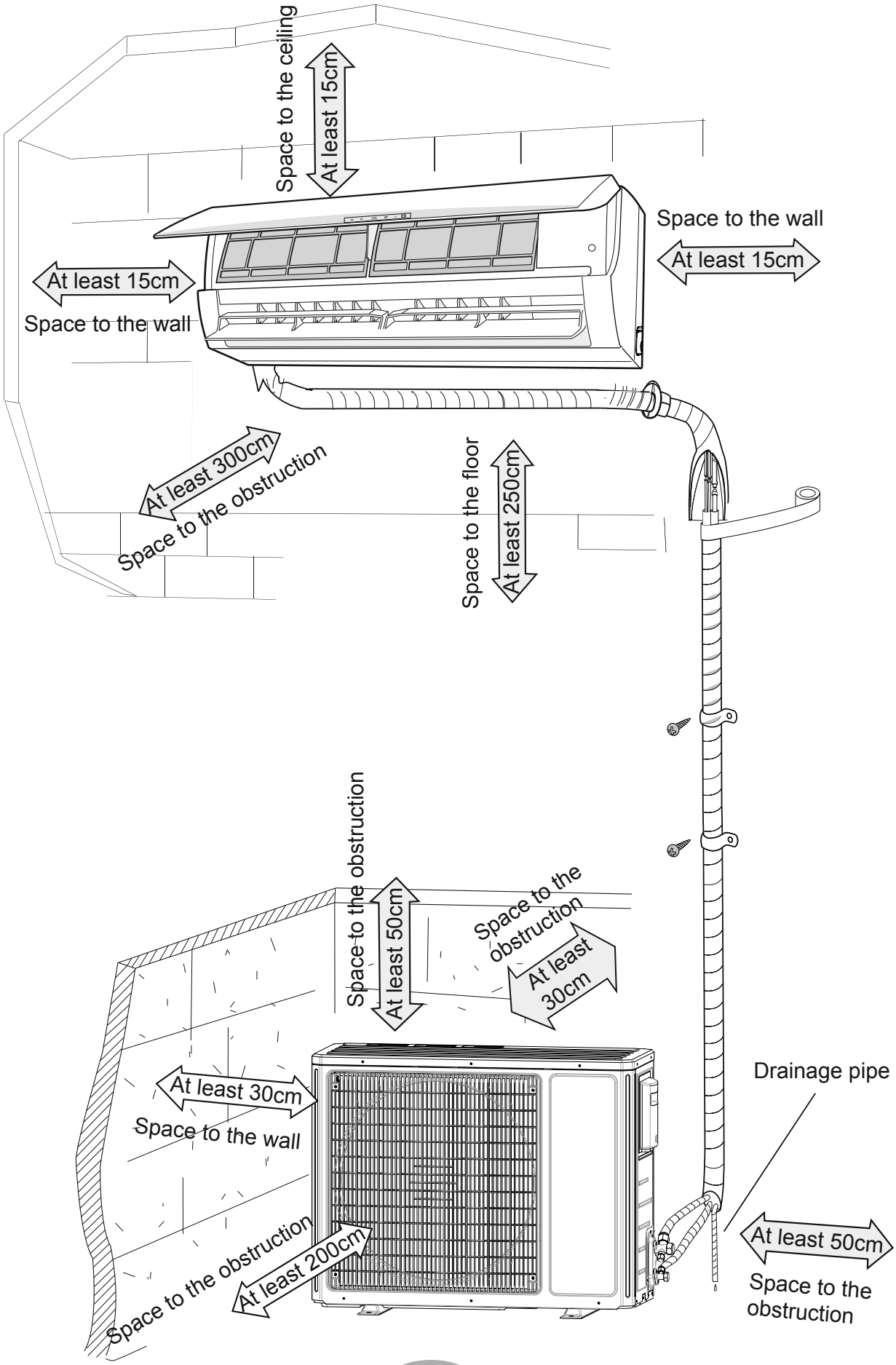
Above indicator diagram is only for reference. Please refer to actual product for the actual indicator and position.

Error code	Troubleshooting
Heating indicator ON 10s OFF 0.5s	Means defrosting status. It's the normal phenomenon.
E5	It can be eliminated after restarting the unit. If not, please contact qualified air conditioning engineer for service.
E8	It can be eliminated after restarting the unit. If not, please contact qualified air conditioning engineer for service.
U8	It can be eliminated after restarting the unit. If not, please contact qualified air conditioning engineer for service.
H6	It can be eliminated after restarting the unit. If not, please contact qualified air conditioning engineer for service.
C5	Please contact qualified air conditioning engineer for service.
F1	Please contact qualified air conditioning engineer for service.
F2	Please contact qualified air conditioning engineer for service.

Warning

- When below phenomenon occurs, please turn off air conditioner and disconnect power immediately, and then contact the dealer or air conditioning engineer for service.
  - Power cord is overheating or damaged.
  - There's abnormal sound during operation.
  - Fuse trips off frequently.
  - Air conditioner gives off a burning smell.
  - Indoor unit is leaking.
- Do not repair or refit the air conditioner by yourself.
- If the air conditioner operates under abnormal conditions, it may cause malfunction, electric shock or fire hazard.

Installation dimension diagram



Tools for installation

1 Level	2 Screw driver	3 Impact drill
4 Drill head	5 Pipe expander	6 Torque wrench
7 Open-end wrench	8 Pipe cutter	9 Leakage detector
10 Vacuum pump	11 Pressure meter	12 Universal meter
13 Inner hexagon spanner		14 Measuring tape

Note:

- Please contact an air conditioning engineer for installation.

Selection of installation location

Basic requirement

Installing the unit in the following places may cause malfunction. If it is unavoidable, please consult the local dealer:

1. The place with strong heat sources, vapours, flammable or explosive gas or volatile objects spread in the air.
2. The place with high-frequency devices (such as welding machine, medical equipment).
3. The place near coast area.
4. The place with oil or fumes in the air.
5. The place with sulfureted gas.
6. Other places with special circumstances.
7. The appliance shall not be installed too close to wet laundry.

Indoor unit

1. There should be no obstruction near air inlet and air outlet.
2. Select a location where the condensation water can be dispersed easily and won't affect other people.
3. Select a location which is convenient to connect the outdoor unit and near the power socket.
4. Select a location which is out of reach for children.
5. The location should be able to withstand the weight of indoor unit and won't increase noise and vibration.
6. The appliance must be installed 2.5m above floor.
7. Don't install the indoor unit right above the electric appliance.
8. Please try your best to keep way from fluorescent lamp.

Outdoor unit

1. Select a location where the noise and outflow air emitted by the outdoor unit will not affect neighborhood.
2. The location should be well ventilated and dry, in which the outdoor unit won't be exposed directly to sunlight or strong wind.
3. The location should be able to withstand the weight of outdoor unit.
4. Make sure that the installation follows the requirement of installation dimension diagram.
5. Select a location which is out of reach for children and far away from animals or plants.If it is unavoidable, please add the cage for safety purpose.

Requirements for electrical connection

Safety precaution

1. Follow electricity Safety Regulations when installing the unit.
2. According to the local safety regulations, use qualified power supply circuit and isolation switch.
3. Make sure the power supply matches with the requirement of the air conditioner. Unstable power supply or incorrect wiring will lead to malfunction and void warranty. Please install correct power supply cables before using the air conditioner.
4. Properly connect the live wire, neutral wire and earthing wire of power socket.
5. Be sure to cut off the power supply before proceeding any work related to electricity and safety. For models with a power plug, make sure the plug is within reach after installation to building regulations.
6. Do not power up before finishing installation.
7. If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
8. The temperature of refrigerant circuit will be high, please keep the interconnection cable away from the copper tube.
9. The appliance shall be installed in accordance with national wiring regulations.

Earthing requirement

1. The air conditioner is the first class electric appliance. It must be properly earthed with a specialized earthing device, by a qualified electrician. Please make sure it is always earthed effectively, otherwise it may cause electric shock.
2. The yellow-green wire in air conditioner is the earth wire, which can't be used for other purposes.
3. The earthing resistance should comply with national electric safety regulations.
4. The appliance must be positioned so that the plug is accessible.
5. An all-pole disconnection switch having a contact separation of at least 3mm in all poles should be connected in fixed wiring.
6. Including an isolation switch with suitable capacity, please note the following table. Isolation switch should be included with a magnet buckle and heating buckle function, it can protect the circuit-short and overload. (Caution: please do not use the fuse only for protect the circuit)

Air-conditioner	Isolation switch capacity
18K	20 Amp

Installation of indoor unit

Step one: choosing installation location

Recommend the installation location to the client and then confirm it with the client.

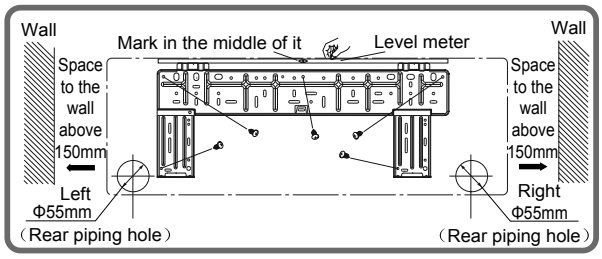
Step two: install wall-mounting frame

1. Hang the wall-mounting frame on the wall; adjust it in horizontal position with a a spirit level meter and then point out the screw fixing holes on the wall.
2. Drill the screw fixing holes on the wall with impact drill (the specification of drill head should be the same as the plastic raw plug) and then push the plastic raw plugs in the holes.
3. Fix the wall-mounting frame on the wall with tapping screws (ST4.2X25TA) and then check if the frame is firmly installed by pulling the frame. If the plastic raw plugs is loose, please drill another fixing hole nearby.

Step three: open piping hole

1. Choose the position of piping hole according to the direction of outlet pipe. The position of piping hole should be a little lower than the wall-mounted frame, shown as below.

18K:

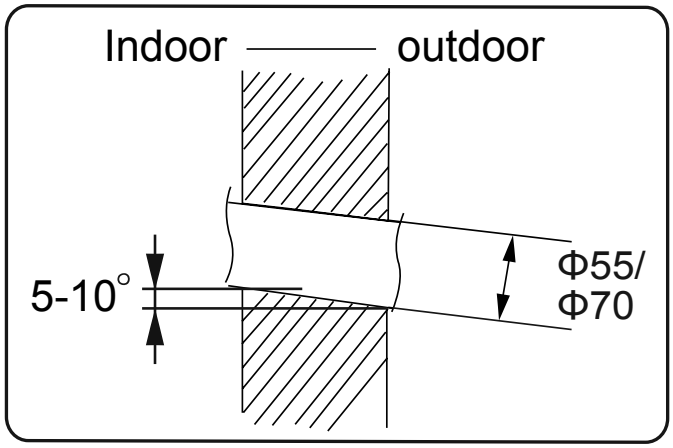


2. Open a piping hole with the diameter of Φ55/70 on the selected outlet pipe position. In order to drain smoothly, slant the piping hole on the wall slightly downward to the outdoor side with the gradient of 5-10°.

Installation of indoor unit

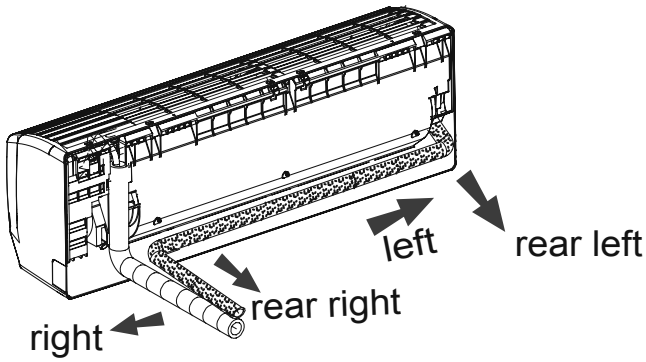
Note:

- Pay attention to dust prevention and take relevant safety measures when opening the hole.
- The raw plugs are not provided and should be bought locally.

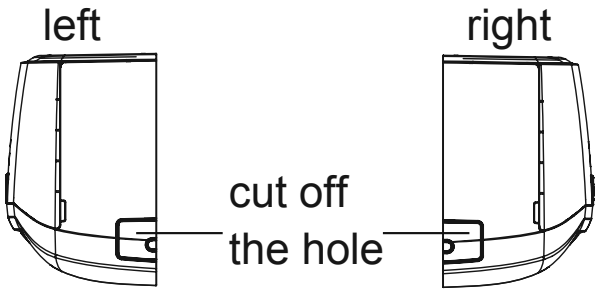


Step four: outlet pipe

1. The pipe can be led out in the direction of right, rear right, left or rear left.



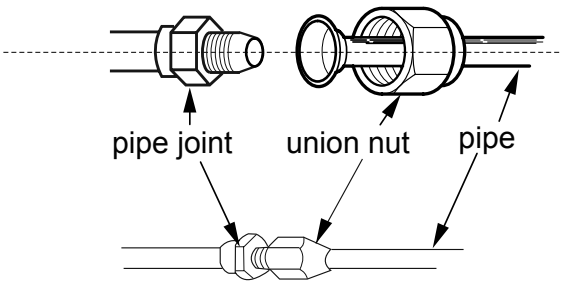
2. When select leading out the pipe from left or right, please cut off the corresponding hole on the bottom case.



Step five: connect the pipe of indoor unit

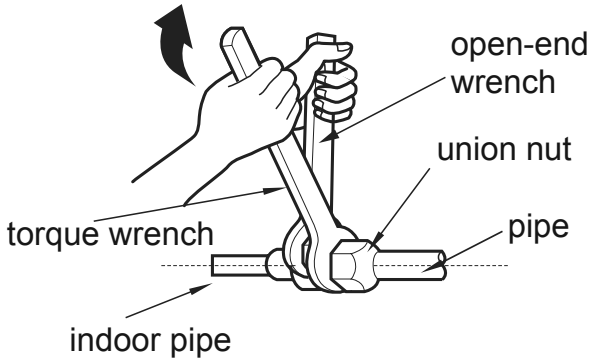
1. Aim the pipe joint at the corresponding bellmouth.

2. Pretightening the union nut with hand.



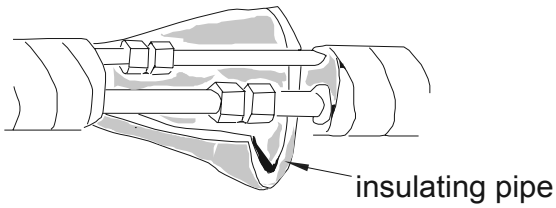
3. Adjust the torque force by referring to the following sheet. Place the open-end wrench on the pipe joint and place the torque wrench on the union nut. Tighten the union nut with torque wrench.
   Note : Pipe connections are dry joints only do not use any plumers tape or putty

Installation of indoor unit



Hex nut diameter	Tightening torque (N·m)
Φ 6	15~20
Φ 9.52	30~40
Φ 12	40~55
Φ 16	60~65
Φ 19	70~75

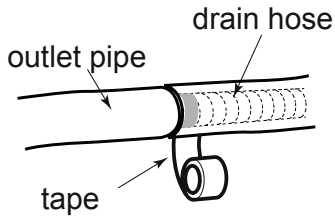
4. Wrap the indoor pipe and joint of connection pipe with insulating pipe, and then wrap it with tape.

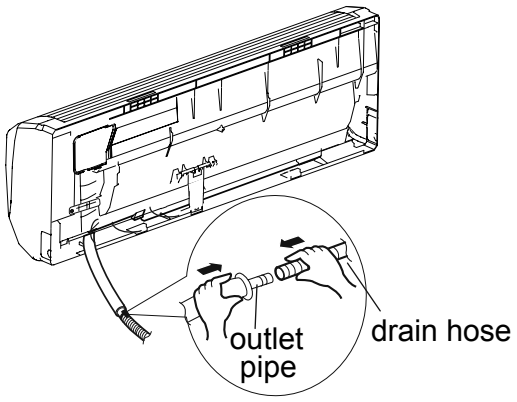


Step six: install drain hose

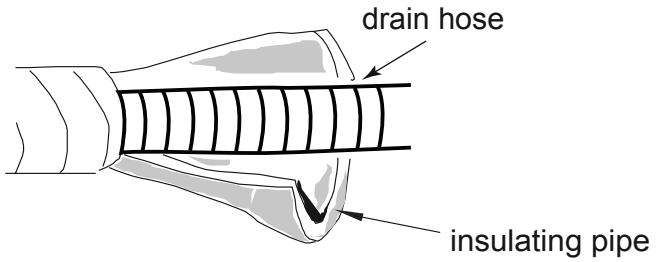
1. Connect the drain hose to the outlet pipe of indoor unit.

2. Wrap the joint with tape.



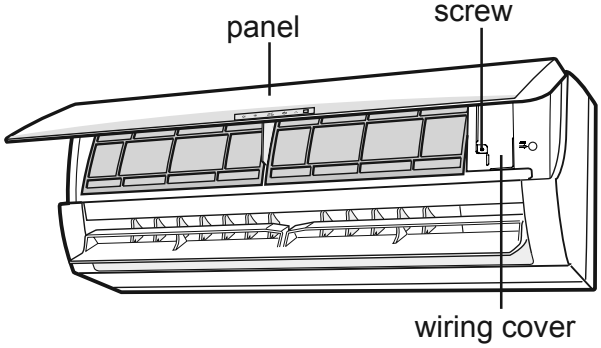


Note:
- Add insulating pipe in the indoor drain hose in order to prevent condensation.
- The plastic raw plugs are not provided.



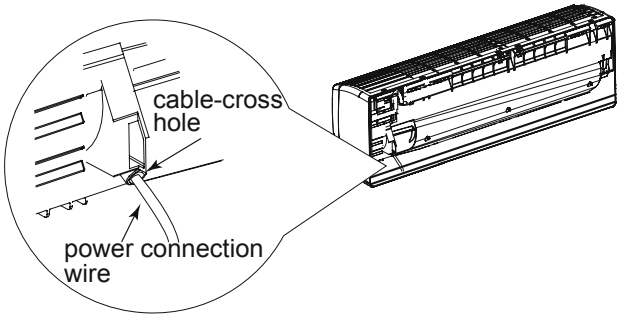
Step seven: connect wire of indoor unit

1. Open the panel, remove the screw on the wiring cover and then take down the cover.

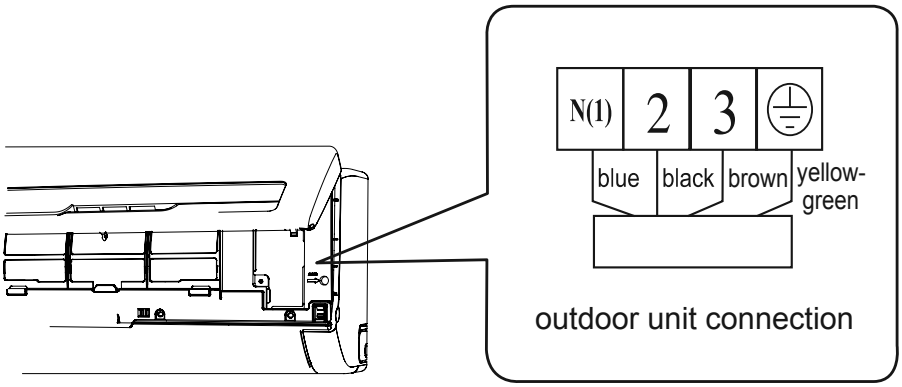


Installation of indoor unit

2. Make the power connection wire go through the cable-cross hole at the back of indoor unit and then pull it out from the front side.



3. Remove the wire clip; connect the power connection wire to the wiring terminal according to the colour; tighten the screw and then fix the power connection wire with wire clip.



4. Put wiring cover back and then tighten the screw.
5. Close the panel.

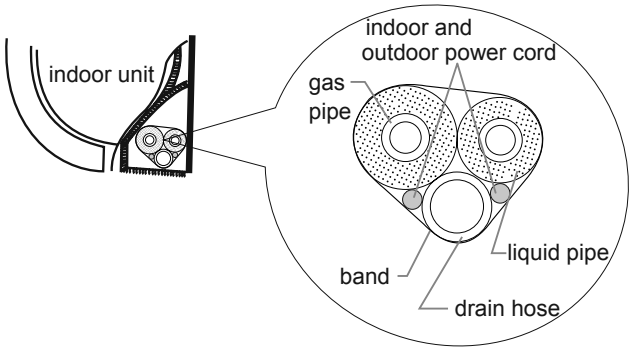
Note:

- All wires of indoor unit and outdoor unit should be connected by a qualified air conditioning engineer.
- If the length of power connection wire is insufficient, please contact the supplier for a new one. Avoid extending the wire by yourself.
- For the air conditioner with a plug, the plug should be reachable after finishing installation to building regulations.
- For the air conditioner without a plug, a spur switch must be installed in the line.

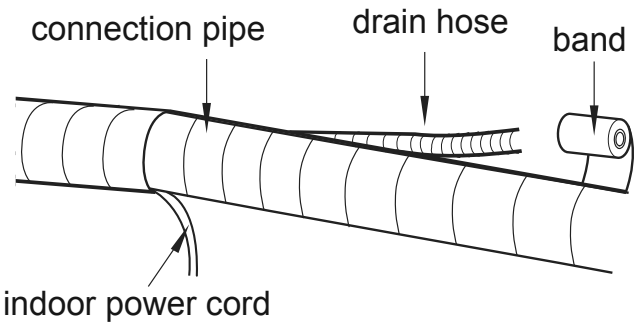
Installation of indoor unit

Step eight: wrap up pipes

1. Wrap up the connection pipe, power cord and drain hose with the band.



2. Reserve a certain length of drain hose and power cord for installation when wrapping them. When wrapping to a certain degree, separate the indoor power and then separate the drain hose.

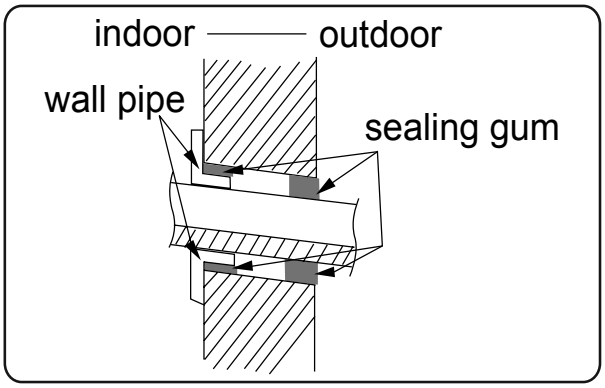


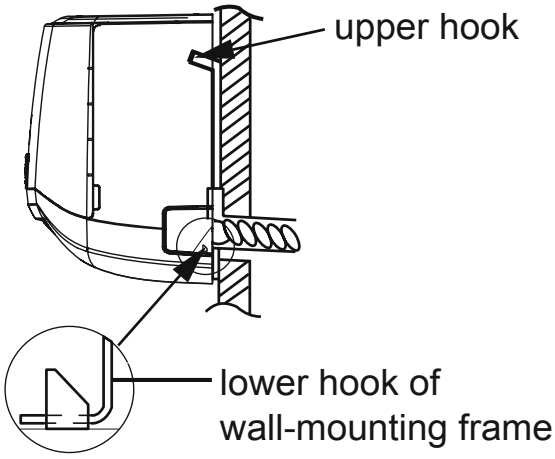
3. Bind them evenly.
4. The liquid pipe and gas pipe should be bound separately at the end.

Note:
- The power cord and control wire can't be crossed or winding.
- The drain hose should be bound at the bottom.

Step nine: hanging the indoor unit

1. Pass the pipes through the wall hole first.
2. Hang the indoor unit on the wall-mounting frame.
3. Stuff the gap between pipes and wall hole with sealing gum.
4. Fix the wall pipe.
5. Check if the indoor unit is installed firmly and closed to the wall.





Note:
- Do not bend the drain hose too excessively in order to prevent blocking.

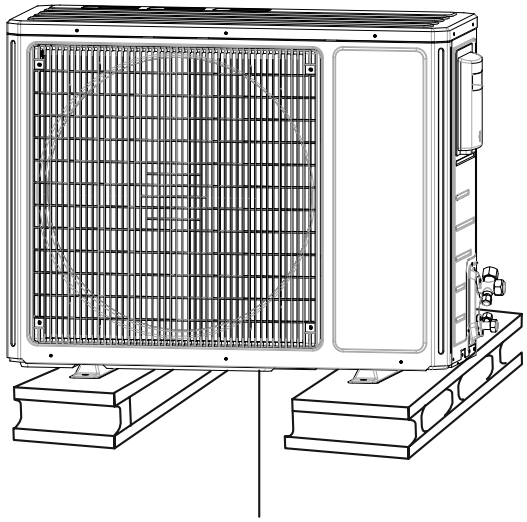
Installation of outdoor unit

Step one: fix the support of outdoor unit (select it according to the actual installation situation)

1. Select installation location according to the house structure.
2. Fix the bracket of outdoor unit on the selected location with expansion bolts.

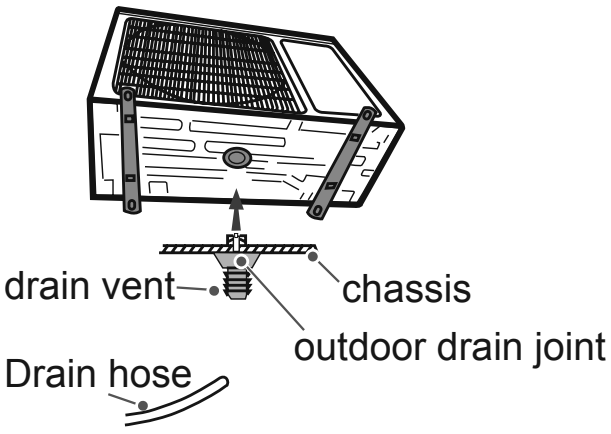
Note:

- Take sufficient protective measures when installing the outdoor unit.
- Make sure the bracket can withstand at least four times the unit weight.
- The outdoor unit should be installed at least 3cm above the floor in order to install drain joint.
- For the unit with cooling capacity of 2300W ~5000W, 6 expansion bolts are needed; for the unit with cooling capacity of 6000W ~8000W, 8 expansion bolts are needed; for the unit with cooling capacity of 10000W ~16000W, 10 expansion bolts are needed.



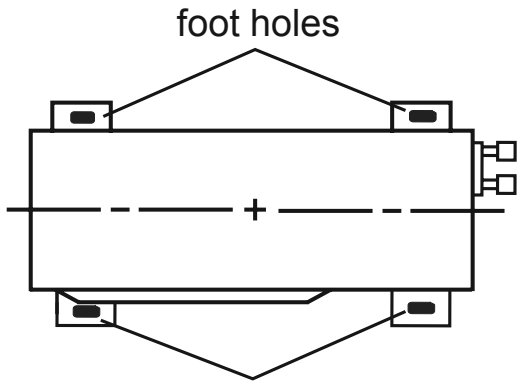
Step two: install drain joint (Only for cooling and heating unit)

1. Connect the outdoor drain joint into the hole on the chassis, as shown in the picture below.
2. Connect the drain hose into the drain vent.



Step three: fix outdoor unit

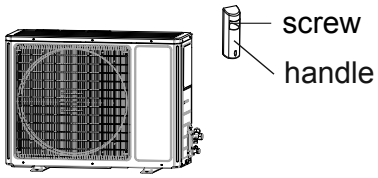
1. Place the outdoor unit on the support.
2. Fix the foot holes of outdoor unit with bolts.



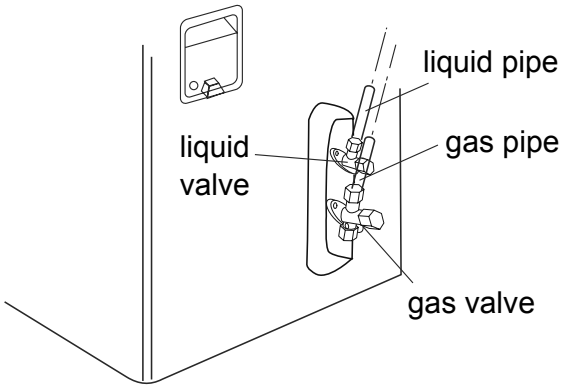
Installation of outdoor unit

Step four: connect indoor and outdoor pipes

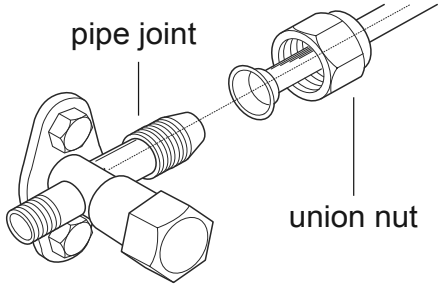
1. Remove the screw on the right handle of outdoor unit and then remove the handle.



2. Remove the screw cap from the valves and aim the pipe joint at the bellmouth of pipe.



3. Pretightening the union nut with hand.



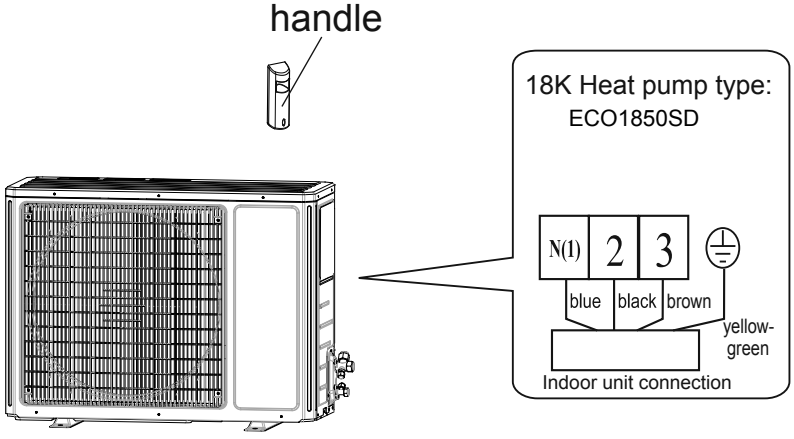
4. Tighten the union nut with torque wrench by referring to the sheet below.

Hex nut diameter	Tightening torque (N·m)
Φ 6	15~20
Φ 9.52	30~40
Φ 12	40~55
Φ 16	60~65
Φ 19	70~75

Note: This is a dry joint only.

Step five: connect outdoor electric wire

1. Remove the wire clip; connect the power connection wire and signal control wire (only for cooling and heating unit) to the wiring terminal according to the colour; fix them with screws.



Installation of outdoor unit

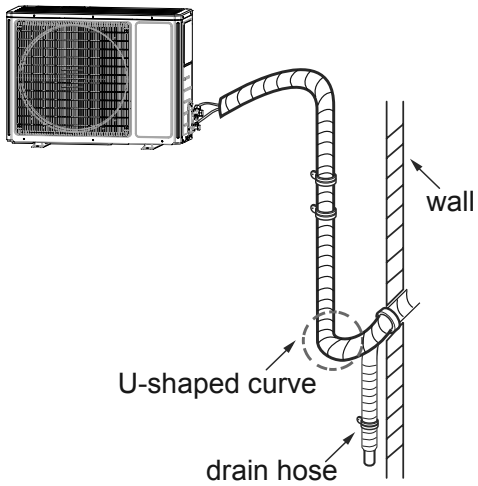
2. Fix the power connection wire and signal control wire with wire clip (only for cooling and heating unit).

Note:

- After tightening the screw, pull the power cord slightly to check if it is firm.

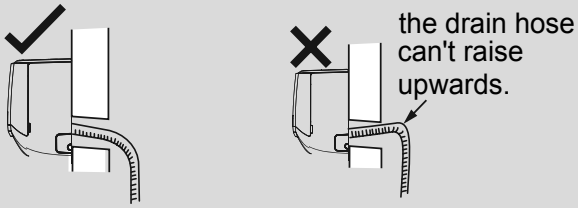
Step six: tidy the pipes

1. The pipes should be placed along the wall, and secured with knock ends and cable ties bent reasonably and hide if possible. Min. semidiameter of bending the pipe is 10cm.
2. If the outdoor unit is higher than the wall hole, you must set a U-shaped curve in the pipe before pipe goes into the room, in order to prevent rain from getting into the room.

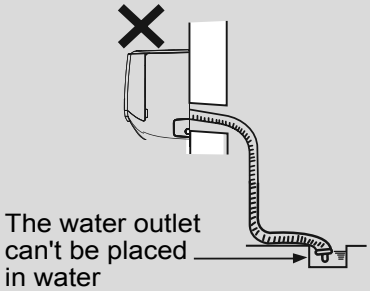


Note:

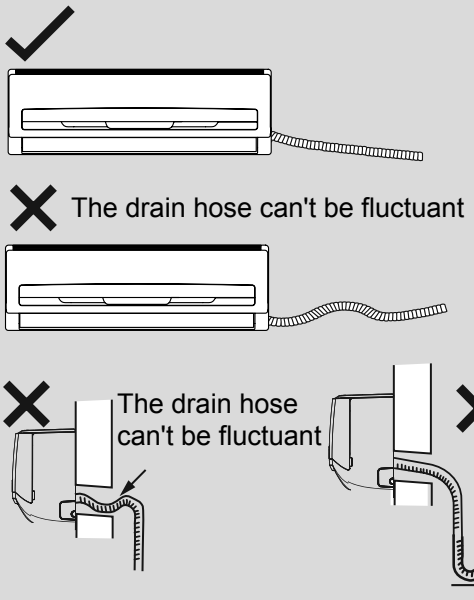
- The through-wal height of drain hose shouldn't be higher than the outlet pipe hole of indoor unit.



- The water outlet can't be placed in water in order to drain smoothly.



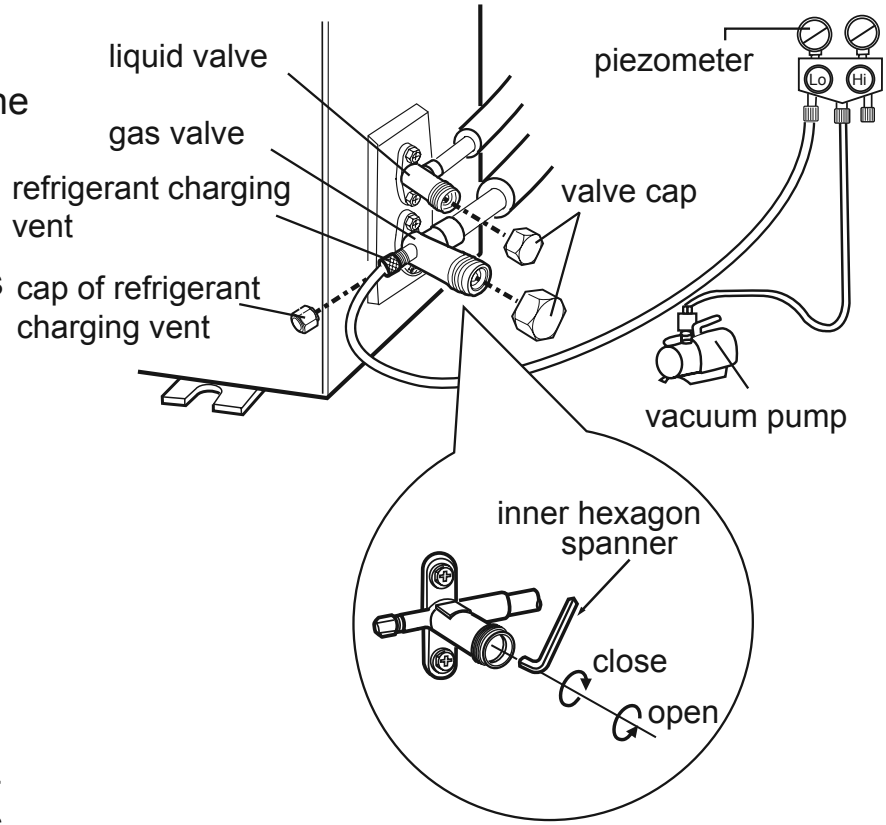
- Slant the drain hose slightly dow-nwards. The drain hose can't be curved, raised or fluctuant, etc.



Vacuum pumping

Use vacuum pump

1. Remove the valve caps on the liquid valve and gas valve and the dust cap to the service charging vent.
2. Connect the charging hose of piezometer to the refrigerant charging vent of gas valve and then connect the other charging hose to the vacuum pump.
3. Open the piezometer completely and operate for 10-15min to check if the pressure of piezometer remains in -0.1MPa.
4. Close the vacuum pump and maintain this status for 1-2min to check if the pressure of piezometer remains in -0.1MPa. If the pressure decreases, there may be leakage.
5. If no leak remove the piezometer, open the valve core of liquid valve and gas valve completely with inner hexagon spanner.
6. Tighten the screw caps of valves and refrigerant charging vent.
7. Reinstall the handle.



Leakage detection

1. With leakage detector:
   Check if there is leakage with leakage detector.
2. With soapy water:
   If leakage detector is not available, please use soapy water for leakage detection.Apply weak soapy water at the suspected position and keep the soapy water for more than 3 min. If there are air bubbles coming out of this position, there's a leakage.

   Note: Use heating mode for this test as there is more pressure used.

Post Installation Checklist

● Check according to the following requirement after finishing installation.

Items to be checked	Possible malfunction
Has the unit been installed firmly?	The unit may drop, shake or emit noise.
Have you done the refrigerant leakage test?	It may cause insufficient cooling (heating) capacity.
Is heat insulation of pipeline sufficient?	It may cause condensation and water dripping.
Is water drained well?	It may cause condensation and water dripping.
Is the voltage of power supply according to the voltage marked on the nameplate?	It may cause malfunction or damaging the parts.
Is electric wiring and pipeline installed correctly?	It may cause malfunction or damaging the parts.
Is the unit earthed securely?	It may cause electric leakage.
Does the power cord follow the specification?	It may cause malfunction or damaging the parts.
Is there any obstruction in the air inlet and outlet?	It may cause insufficient cooling (heating) capacity.
The dust and sundries caused during installation are removed?	It may cause malfunction or damaging the parts.
The gas valve and liquid valve of connection pipe are open completely?	It may cause insufficient cooling (heating) capacity.

Test operation

1. Preparation of test operation

- The client approves the air conditioner.
- Specify the important notes for air conditioner to the client.

2. Method of test operation

- Put through the power, press ON/OFF button on the remote controller to start operation.
- Press MODE button to select AUTO, COOL, DRY, FAN and HEAT to check whether the operation is normal or not.
- If the ambient temperature is lower than 16℃ , the air conditioner can't start cooling.

Configuration of connection pipe

1. Standard length of connection pipe
   - 4 meter , 5 meter , 10 meter.

2.Min. length of connection pipe is 3m.

3.Max. length of connection pipe and max. high difference.

Cooling capacity	Max length of connec-tion pipe	Max height difference
5000Btu/h (1465W)	15	5
7000Btu/h (2051W)	15	5
9000Btu/h (2637W)	15	5
12000Btu/h (3516W)	20	10
18000Btu/h (5274W)	25	10

Cooling capacity	Max length of connec-tion pipe	Max height difference
24000Btu/h (7032W)	25	10
28000Btu/h (8204W)	30	10
36000Btu/h (10548W)	30	20
42000Btu/h (12306W)	30	20
48000Btu/h (14064W)	30	20

4. The additional refrigerant oil and refrigerant charging required after extending connection pipes.
   - The calculation method of additional refrigerant charging amount (on the basis of liquid pipe):

     Additional refrigerant charging amount = extended length of liquid pipe × additional refrigerant charging amount per meter
   - When the length of connection pipe is above 5m, add refrigerant according to the extended length of liquid pipe. The additional refrigerant charging amount per meter is different according to the diameter of liquid pipe. See the following sheet.

Configuration of connection pipe

Additional refrigerant charging amount for R22, R407C, R410A and R134a

Diameter of connection pipe		Outdoor unit throttle	
Liquid pipe(mm)	Gas pipe(mm)	Cooling only(g/m)	Cooling and heating(g/m)
Φ6	Φ9.52 or Φ12	15	20
Φ6 or Φ9.52	Φ16 or Φ19	15	50
Φ12	Φ19 or Φ22.2	30	120
Φ16	Φ25.4 or Φ31.8	60	120
Φ19	_	250	250
Φ22.2	_	350	350

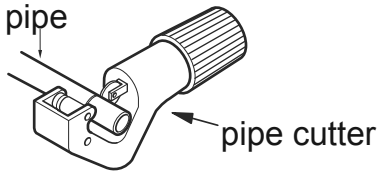
Pipe expanding method

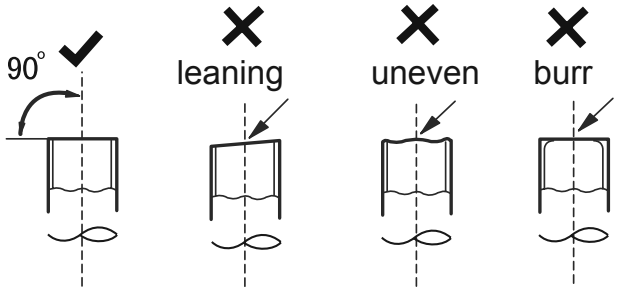
Note:

Improper pipe expanding is the main cause of refrigerant leakage. Please expand the pipe according to the following steps:

A:Cut the pipe,clean edges and make sure there is no debris in the copper tubes

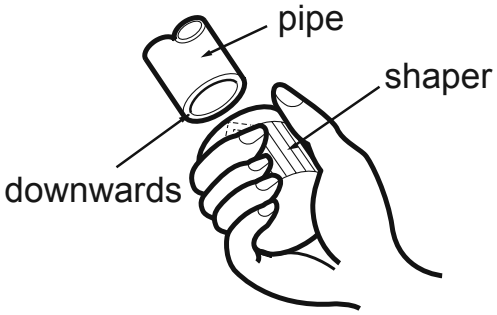
- Confirm the pipe length according to the distance of indoor unit and outdoor unit.
- Cut the required pipe with pipe cutter.





B: Remove the burrs

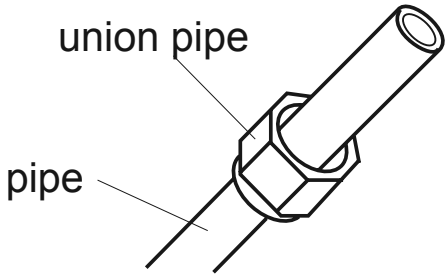
- Remove the burrs with shaper and prevent the burrs from getting into the pipe.



C: Put on suitable insulating pipe

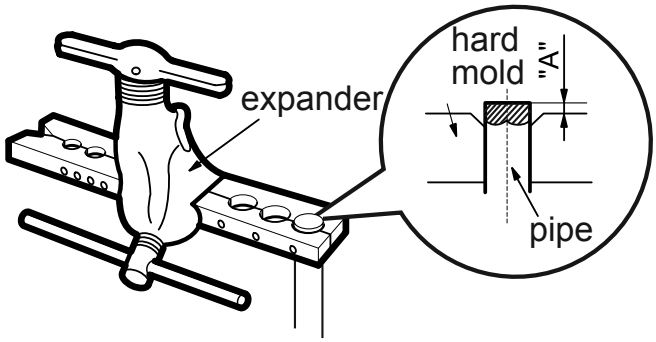
D: Put on the union nut

- Remove the union nut on the indoor connection pipe and outdoor valve; install the union nut on the pipe.



E: Expand the port

- Expand the port with expander.



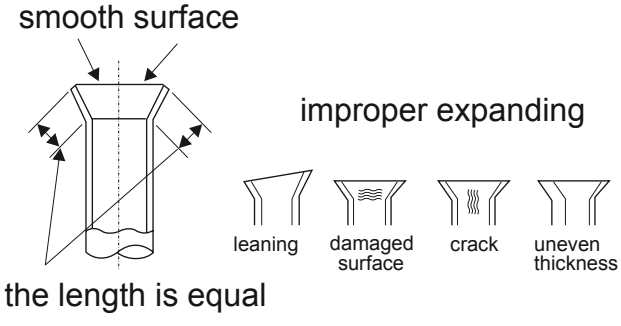
Note:

- "A" is different according to the diameter, please refer to the sheet below:

Outer diameter (mm)	A(mm)	
	Max	Min
Φ6 - 6.35(1/4")	1.3	0.7
Φ9.52(3/8")	1.6	1.0
Φ12-12.7(1/2")	1.8	1.0
Φ15.8-16(5/8")	2.4	2.2

F: Inspection

- Check the quality of expanding port. If there is any blemish, expand the port again according to the steps above.



ONE (1) YEAR LIMITED WARRANTY

Save This Warranty Information

Eco Air guarantees this product free from defects in materials and workmanship for a period of one (1) year from the date of purchase. Coverage is valid only with proof of purchase.

Faults arising from a faulty installation is specifically excluded.

This unit must be operated under conditions as recommended, within the voltage range indicated on the unit. Any attempts made to service or modify the unit, will render this WARRANTY VOID. The actual product may differ slightly from the illustration. This warranty is in addition to, and does not affect, your statutory rights.

If the unit is modified or mis-used, this could void the warranty.

For further information, please contact 0845 388 0007.

This product has been manufactured to comply with the EC Directives 2006/95/EC and 2004/108/EC.

We recommend that you note the details of your purchase below and retain your original proof of purchase / receipt with this manual. Keep these documents safe in the event of a warranty claim.

Date of purchase: _____

Retailer name: _____

Serial number: _____

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